

AD-A119 205 GENERAL ACCOUNTING OFFICE WASHINGTON DC ACCOUNTING A--ETC F/8 14/2  
NEED FOR BETTER MANAGEMENT OF THE ARMED FORCES RADIOBIOLOGY RES--ETC(U)  
MAY 82  
UNCLASSIFIED GAO/AFMD-82-74 NL

1 OF 1  
AD A  
1-10005



A

END  
DATE  
FILMED  
10-82  
DTIC

1

BY THE COMPTROLLER GENERAL

**Report To The Chairman, Subcommittee On  
Investigations, Committee On Armed Services  
House Of Representatives  
OF THE UNITED STATES**

**Need For Better Management  
Of The Armed Forces Radiobiology  
Research Institute**

AD A119205

↓  
The Armed Forces Radiobiology Research Institute greatly underutilizes its computer systems. It has not adequately planned for and justified them nor has it provided adequate staff to support its software requirements. The Institute also lacks proper controls over its computer maintenance contracts. Further, inventory records do not accurately account for the Institute's equipment assets, and time and attendance procedures have not been properly administered. GAO recommends ways for correcting each of these problems.

↖

DTIC  
ELECTE  
SEP 14 1982  
H



DISTRIBUTION STATEMENT A  
Approved for public release;  
Distribution Unlimited

82 09 14 009

GAO/AFMD-82-74  
MAY 24, 1982

**Request for copies of GAO reports should be sent to:**

**U.S. General Accounting Office  
Document Handling and Information  
Services Facility  
P.O. Box 6015  
Gaithersburg, Md. 20760**

**Telephone (202) 275-6241**

**The first five copies of individual reports are free of charge. Additional copies of bound audit reports are \$3.25 each. Additional copies of unbound report (i.e., letter reports) and most other publications are \$1.00 each. There will be a 25% discount on all orders for 100 or more copies mailed to a single address. Sales orders must be prepaid on a cash, check, or money order basis. Check should be made out to the "Superintendent of Documents".**



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON D C 20548

B-207384

The Honorable Richard C. White  
Chairman, Subcommittee on Investigations  
Committee on Armed Services  
House of Representatives

Dear Mr. Chairman:

In response to your November 20, 1981, letter (app. I), we have reviewed the management of the Armed Forces Radiobiology Research Institute in Bethesda, Md. The Institute is the principal radiobiological research laboratory for the Department of Defense, and is a subordinate command of the Defense Nuclear Agency (DNA). The Institute's mission is to conduct research on (1) the effects of radiation on living organisms and (2) related matters that are essential to the operational and medical support of the Department of Defense. It has about 220 military and civilian personnel and a total 1982 budget of about \$13.7 million.

Because of information provided you by a former employee and past management and audit reports, you asked us to address the following areas:

- Management and control of the Institute's automatic data processing (ADP) equipment, software programs, and operations.
- Award and administration of contracts, particularly those involving ADP.
- Unauthorized use of the ADP facilities.
- Control and protection of Institute assets.
- Administration of time and attendance reporting.
- Corrective actions taken or planned in response to a 1980 Defense Audit Service report, which showed that the majority of the scientific studies conducted by the Institute were not related to its mission.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of our review was to assess the Institute's performance in the areas identified in your letter. This assignment was performed in accordance with our current "Standards for



✓	
for	
file	
Codes	
1, 37	
1982	
A	

Audit of Governmental Organizations, Programs, Activities, and Functions." To the extent practical, we relied upon reports prepared by the Defense Audit Service, the Army Computer Systems Command, and DNA's Inspector General who had previously evaluated various aspects of the Institute's operations. We also performed our own examination of the Institute as described below.

For each of the review areas we interviewed responsible Institute officials and, where necessary, DNA officials. We interviewed the auditors who developed the 1980 Defense Audit Service report, and the former employee who had contacted your Subcommittee.

In our review of the Institute's automatic data processing resources, we observed computer operations and selected scientific experiments that use computer resources. We examined computer utilization reports, request forms for the development of computer software, control logs, registers of authorized users, and various other operating reports. We interviewed all major users of the ADP resources to assess their satisfaction with the support they receive. We also interviewed other computer professionals who have knowledge of how computer systems are employed in a research environment.

In our review of contract award and administration, asset control, and time and attendance reporting, we examined files and selected and tested individual cases against required procedures to determine whether problems existed in these areas. In each instance, we limited our sample size to enable us to complete our audit work and report to you within the time frame requested by your office.

As requested by your office we did not get written agency comments, but we discussed our findings with the Directors of DNA and the Institute who agreed with the facts presented. We have incorporated their comments where appropriate. As you requested, we did not discuss our recommendations with them.

#### SUMMARY OF FINDINGS

We have kept members of your staff briefed on the progress and results of our evaluation. This report presents our findings, which are discussed in greater detail in appendix II. In summary, we found:

- The Institute's computer systems are greatly underutilized. During 1981, usage of the three main computers in the central facility averaged only 14.5 percent of the time available during the Institute's primary work hours. Of the Institute's nine smaller computers, only three were being used for laboratory research at the time of our review, and a fourth was between experiments. Two other systems were used only occasionally, and three had not been used

at all for the last 6 to 16 months. Despite this low utilization, the Institute's ADP plan shows an intent to acquire additional ADP capacity over the next 3 years. This under-utilization developed from the following:

- The Institute has not fully justified its ADP procurements. Our review of procurement records showed that required justifications and assessments were not prepared for the computers purchased since 1976 and management review of these purchases was limited. Further, although all but one of the computers acquired during this period were purchased using sole source procedures, adequate justification for sole source procurement could not in most cases be found.
- The Institute lacks sufficient staff to develop requested software as it is needed. Three full-time positions and one part-time position are authorized for programming support; however, this is not sufficient to handle researchers' requests. The current backlog of software requests amounts to almost 7 staff-years of effort.
- The Institute has not adequately planned for its ADP requirements. Until recently, no long range research plan had been developed; without one the Institute could not accurately project its long term requirements for computer hardware, software, and people. Thus, computer acquisitions have been handled piecemeal and software support has not been sufficient.

--The Institute lacks proper controls over its ADP maintenance contracts and has not assessed the cost effectiveness of the current arrangement. The Institute has paid for maintenance services that are not supported by documentation and is paying for maintenance on computer systems that are not being used. This is largely attributable to organizational confusion between the Logistics and Computer Sciences Departments about the management of these contracts.

--The Institute's procedures for controlling access to work areas and use of computer systems are generally adequate to prevent use by unauthorized personnel and we found no use by unauthorized users. However, possible unauthorized use by authorized people cannot be determined from agency records.

--The Institute's inventory records do not accurately account for its equipment resources. We tested 159 items, or about 2-1/2 percent of the Institute's inventory, and found 26 items, or about 16 percent, were not listed on the inventory records. Because of insufficient staffing, no complete

physical inventory of Institute equipment has been conducted since at least 1976, even though such an inventory is required to be performed annually. The Institute Director informed us he has requested additional staffing for this section but to date it has not been provided by DNA.

--The Institute's time and attendance reporting has not been adequately administered. Several procedural problems were identified and discussed with Institute officials and they have promised to take the necessary corrective actions. At your request, we also reviewed the time and attendance records from March 1980 to February 1982 of a particular Institute employee who was alleged to be teaching at a public college on Government time. We found that the employee attempted to put in a full 8 hours each day but frequently failed to do so.

--The Institute has taken or plans corrective actions to address most of the recommendations made by the Defense Audit Service in 1980. Action on two recommendations, however, has not been taken: (1) formal peer review of the Institute's research program has not yet been established and (2) the Institute's funding requirements are not separately identified in the Defense Nuclear Agency's formal budget presentation. We were told the peer review process is being developed and should be established by late 1982. DNA officials believe adequate visibility of the Institute's funding is already provided in budget support documents and plan no further action on this matter.

#### CONCLUSIONS

Through past audit reports the Institute has recognized the existence of operational problems. In many cases, it has taken corrective actions. These actions are a good beginning, but numerous problems remain.

The problems we identified have existed at the Institute for a number of years. While we recognize that the research environment must have a degree of flexibility to respond to changing scientific requirements, this does not obviate the need to establish and practice basic management principles. We believe action must be taken to improve Institute management.

#### RECOMMENDATIONS TO THE DIRECTOR, DEFENSE NUCLEAR AGENCY

We recommend that the Director, DNA require the Director of the Armed Forces Radiobiology Research Institute to:

--Declare as excess one of the three main computers and one or two of the smaller ones that have not been used for the last several months.

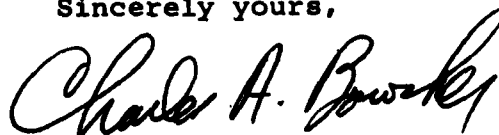
- Declare a moratorium on any further ADP procurements until the Institute develops an ADP master plan that identifies the computer hardware, software, and people needed to support the Institute's 5-year research plan.
- Follow procedures governing ADP procurements.
- Establish a reporting process that discloses to top management information on computer usage, adequacy of data processing support provided to users, and status of software support requests.
- Analyze staffing to see how many computer programmers would be needed to keep pace with software requirements as they develop.
- Move the responsibility for administering ADP maintenance contracts to the Computer Sciences Department and require that department to properly document contractor performance.
- Explore the potential benefits of less expensive maintenance procedures for infrequently used computer systems.

We also recommend that the Director, DNA provide adequate staff resources to improve accountability for the Institute's assets.

- - - - -

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from its date. At that time we will send a copy to the Director of DNA and the Director of the Institute, and make copies available to other interested parties.

Sincerely yours,



Comptroller General  
of the United States



RICHARD C. WHITE, TEX.  
CHAIRMAN

ROBERT M. (BOB) MOLLOHAN, W. VA.  
LES ASPIN, WIS.  
ABRAHAM KAZEN, JR., TEX.  
NICHOLAS MAVROULES, MASS.  
SAMUEL S. STRATTON, N.Y.  
JACK BRINKLEY, GA.  
DAN DANIEL, VA.

ROBIN L. BEARD, TENN.  
ROBERT W. DANIEL, JR., VA.  
DONALD J. MITCHELL, N.Y.  
LARRY J. NOPKINS, KY.  
ROBERT W. DAVIS, MICH.  
JAMES L. NELLIGAN, PA.

JOHN F. LALLY  
COUNSEL

NINETY-SEVENTH CONGRESS  
**U.S. House of Representatives**  
COMMITTEE ON ARMED SERVICES  
ARMED SERVICES INVESTIGATIONS SUBCOMMITTEE  
2339 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, D.C. 20515  
225-4221

November 20, 1981

Honorable Charles A. Bowsher  
Comptroller General of the United States  
441 G Street, N.W.  
Washington, D.C. 20548

Dear Mr. Bowsher:

The Investigations Subcommittee is concerned with the management and operation of the Armed Forces Radiobiology Research Institute, Bethesda, Maryland. Information provided by a former employee and examination of management and audit reports indicate significant and numerous problems exist.

A member of the subcommittee's professional staff recently made a visit to the Institute to determine whether allegations of improprieties were true. Among the allegations he substantiated were that no inventory records are maintained, utilization of computers during the prime work shift was less than 20 percent, and a civilian supervisor was teaching at a college during working hours.

A report issued in December 1980 by the Defense Audit Service showed that 163 of 205 scientific reports published during a three-year period were not related to the Institute's mission. A management review conducted by the Army Computer Systems Command in March 1981 disclosed inadequate control over automatic data processing (ADP) equipment and software programs, a sizeable backlog of software programming, limited technical assistance to researchers, and ADP management positions occupied by individuals with education and experience in mathematics and biochemistry rather than with ADP backgrounds.

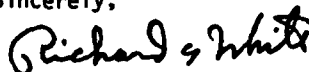
Accordingly, I am requesting that the General Accounting Office conduct a review and evaluation of the management and operation of the Armed Forces Radiobiology Institute. During the review the extent of corrective actions taken in response to the Defense Audit Service and Computer Systems Command reports should be evaluated. In this connection, actions planned but not yet implemented as well as additional actions needed to correct the problems described in these reports should be identified.

The review also should include, but not necessarily be limited to, evaluating the procedures and practices related to:

1. The award and administration of contracts, particularly those involving automatic data processing (ADP) activities.
2. Unauthorized use of ADP facilities.
3. Control and protection of Institute assets.
4. Administration of time and attendance reports.

The subcommittee would appreciate receiving the final report by May 1982. It is requested that GAO representatives coordinate and periodically report to members of the subcommittee's professional staff concerning the progress of this assignment. It also is requested that GAO's recommendations not be discussed with officials of the Institute or the Defense Nuclear Agency.

Sincerely,



Richard C. White  
Chairman

RCW:jwl

SUMMARY OF FINDINGSUNDERUTILIZATION OF COMPUTER FACILITIES

At the time of our review, the Institute's computer systems were greatly underutilized. It owns 12 separate minicomputer systems. The most powerful and expensive of these are three Digital Equipment Corporation PDP 11/70 computers, located in the Institute's central computer facility. These support the research and administrative needs of the Institute and cost an average of \$365,000 each. The other nine computers are smaller systems; except for one they also were manufactured by Digital Equipment Corporation. They are located in various laboratories at the Institute, are used to support research experiments, and cost between about \$16,700 and \$71,700 each.

Central computers

Computer utilization statistics show that usage of the three PDP 11/70s has been very low. During fiscal 1981, when all systems were operational, the central processing unit (CPU) usage for these systems averaged only 14.5 percent of the time available during the Institute's primary work hours (7:00 a.m. to 5:30 p.m.). Because the Institute's facilities are open and available for research from 6:00 a.m. to 10:00 p.m., we also calculated CPU usage for this period and found that the average dropped to just below 10 percent. The following chart summarizes CPU usage for these three systems for fiscal 1981:

<u>System</u>	<u>CPU usage as a percent of available time</u>	
	<u>7:00 a.m. to 5:30 p.m.</u>	<u>6:00 a.m. to 10:00 p.m.</u>
A	17.3	11.3
B	16.8	11.0
C	<u>9.4</u>	<u>6.2</u>
Average	<u>14.5</u>	<u>9.5</u>

At times during 1981, only one PDP 11/70 was needed to process the Institute's workload. For a 2-month period between May and July 1981, only one of the PDP 11/70s was available for processing because the other two were being relocated to a new central site. During these 2 months CPU usage was only about 25 and 34 percent, respectively, during the primary work hours and only about 17 and 22 percent, respectively, from 6:00 a.m. to 10:00 p.m. In the following months, CPU usage for all three systems returned immediately to the previous low levels.

We recognize that CPU usage may not be the best measure of computer utilization in a research environment because it is not always a critical constraint during experiments. Other factors, such as input/output speed and mass storage size, can be significant. However, we found that the PDP 11/70s generally are not

used in direct support of research experiments. In January and February 1982, CPU usage in direct support of research made up only 54 and 22.5 percent, respectively, of the entire workload for two of the systems. None of the CPU usage on the remaining system directly supported experiments.

Smaller computers are also underutilized

The nine smaller computer systems are also underutilized. Three are actively used and one is currently between experiments; two are used only occasionally; and three have not been used at all for several months. Because utilization statistics are not available for these systems, we had to rely on interviews with Institute officials. The interviews revealed the following situation:

<u>System</u> <u>(note a)</u>	<u>Approximate</u> <u>cost</u>	<u>Present use</u>
PDP 11/34A	\$45,655	Actively used in a laboratory
PDP 8A	21,400	Actively used in a laboratory
PDP 8A	21,650	Actively used in a laboratory
PDP 11/45	67,804	Actively used until recently; currently between experiments
PDP 11/10	24,465	Occasionally used for testing electronics interface
PDP 11/40	71,718	Occasionally used to test pro- grams
PDP 11/34A	41,144	Not used for about the last 12 months
PDP 11/34A	46,033	Not used--in storage for last 6 months
SYST-34B	16,700	Not used--in storage. Central processing unit costing about \$4,500 reported missing in December 1980, about 16 months ago.

a/PDP is a model designation for equipment manufactured by the Digital Equipment Corporation. The SYST designation identifies equipment offered by Plessey Peripheral Systems. The SYST-34B is the Plessey equivalent to the PDP 11/34A; it uses a central processing unit manufactured by Digital Equipment Corporation.

CONTRIBUTING FACTORS

Three primary factors have contributed to the underutilization. The Institute has not (1) justified adequately the need for its ADP procurements, (2) provided sufficient staff to support its software requirements, and (3) developed an adequate ADP master plan.

ADP procurements not adequately justified

The Institute's procurement files generally did not contain adequate documentation justifying the need for its computer systems and the basis for using sole source procurements.

The Institute purchased its three PDP 11/70 systems in three separate procurement actions between 1976 and 1979, using special procedures established by the General Services Administration for purchasing ADP equipment that was to be used as laboratory equipment. The procedures allowed Federal agencies to buy certain ADP equipment under a simplified process, freed from the requirement for lengthy documentation or formal advertisement. However, agencies were still expected to validate their requirements and to justify and document their need for ADP equipment. Further, they were expected to consider alternative vendors, document their selection, and fully justify any sole source procurements.

We could find no evidence that feasibility studies or needs and requirements documentation had been prepared. In addition, all three systems were purchased through sole source procurement from the Digital Equipment Corporation, but only one of the contract files explained why other vendors were not considered. In that case the file stated a PDP 11/70 was needed to replace the older, failing PDP 11/45 and the new PDP 11/70 would use the PDP 11/45's existing peripheral equipment. Thus, a sole source procurement was needed to ensure hardware compatibility. The Institute did not follow this plan, however. It kept both machines and bought new peripheral equipment for the PDP 11/70.

The DNA senior ADP policy official did not review the Institute's purchase of the three PDP 11/70 systems and was not aware that the third system had been purchased until after it had been delivered to the Institute. This individual told us that he viewed purchases made under the special procedures as laboratory rather than ADP equipment and thus felt they were not subject to his review. DNA procurement officials approved the PDP 11/70 purchases, but apparently did not require or review any documentation supporting these procurements.

In addition to its central facility systems, the Institute has purchased ten smaller systems since 1974, one of which was declared excess in 1980. We found that the first three of these, purchased in 1974--the PDP 11/45, PDP 11/10, and PDP 8E--were

supported by a comprehensive analysis of the Institute's ADP requirements and the types of hardware and software needed. The procurement was made competitively.

Files for six other systems, however, all purchased between 1976 and 1979, show inadequate documentation and analysis. 1/ Three of these systems--all PDP 11/34As--were purchased under the same special procedures followed for the PDP 11/70 purchases and were equally deficient in documentation. The other three systems--the two PDP 8As and the SYST-34B--were purchased under the General Services Administration's standard ADP procurement procedures, which require more rigorous requirements justifications including economic analyses and consideration of future support cost requirements. Again, we could find no evidence that any such analyses were ever performed. In addition, DNA's procedures required that its senior ADP policy official approve all computer purchases. However, the Institute procured one of the PDP 8As without this approval.

The Institute's inadequate justifications for its procurements may not have been limited to computer systems. In October 1981, the DNA Inspector General reported that Institute procurement procedures did not require written justifications, regardless of dollar value. The report recommended that such justifications be required and included in the contract file. We performed a spot check of several recent purchases and found that these justifications are now being prepared.

#### Staff not sufficient

The Institute has not had enough programmers to develop all the software requested of it. The Institute is authorized three full-time persons and one part-time person for providing systems analysis and programming support to the Institute's researchers. At the time of our review, one of the full-time positions had been vacant since September 1981. We analyzed the current backlog of requests for software support and confirmed them with the requestors. We found an estimated requirement for 326 weeks, or almost 7 staff-years, of effort.

The department heads and researchers we talked to told us the Computer Sciences Department provides good support, but more programming personnel are needed. Two researchers told us the software used in their experiment needs revision but has not been revised because the programmer who wrote the software has left the Institute. Other researchers told us they have not requested some programming support because they know support is not available.

---

1/The contract file for one other system (PDP 11/40) has been destroyed, and thus was not included in our review.

Even though the backlog of requests appears sizable, we did not detect situations in which experiments were not being carried out because of a lack of software support. Also, while the backlog would obviously have increased computer usage if the software had been developed, we could not estimate to what extent. The software would not normally have a permanent effect on computer usage; once an experiment is complete, the software is usually not reused.

#### ADP master plan inadequate

The Institute has not planned adequately for its ADP resources. Until recently, the Institute had not developed a long range plan to guide its research efforts. It thus was not in a position to develop an ADP master plan that identified over the long term its computer hardware, software, and personnel requirements. Instead, planning focused on the development of the annual budget. In this process, researchers (1) identify, at the individual project level, the units of work planned and (2) estimate resources needed, including computer support requirements for the coming year. Although this process may be adequate for the annual budget planning cycle, we do not consider it an effective tool for avoiding the piecemeal acquisition of computer systems and the staffing shortages that have contributed to the Institute's underutilization of its computer systems.

In November 1981 the Institute published its first comprehensive 5-year research plan, laying out long term plans and priorities. An ADP master plan tied to this 5-year research plan would enable the Institute to better identify, acquire, and manage its ADP resources--equipment, software, and personnel--in ways that best support the research mission of the Institute.

In April 1982 the Institute issued a 5-year ADP master plan, but we found the plan does not relate well to the 5-year research plan and is inaccurate and outdated. It describes how each of the computer systems is being used and identifies a specific research project for each of the four PDP 11/34 systems. However, one of these four research projects was terminated by the Institute in 1980 and three of the 11/34A systems have gone unused for the last 6 to 16 months. The plan shows the Institute's intent to replace and upgrade one 11/70 and two 11/34A systems, as well as to acquire another system over the next 3 years.

The need for a better ADP master plan is illustrated by two events that ultimately contributed to the current underutilization of the Institute's computer systems:

--In September 1979 the Institute requested approval to purchase a PDP 11/34A system. The request was reviewed and the purchase approved by DNA officials. The equipment was delivered to the Institute in January 1980. However, as the chart on page 4 shows, three of the four 11/34 systems are

now not in use. Two, including the one delivered in January, are in storage. In fact, the latter one has not been used since at least December 1980.

--In March 1977 the Institute took delivery of its first PDP 11/70. Originally, this system was used to support a neurobiology project, but the project was later terminated because of its questionable relevancy to the Institute's mission. Because no other research requirements existed for the PDP 11/70 system, the equipment was integrated into the central computer facility. That PDP 11/70 is now the most underutilized of the three central facility systems (see p. 3).

If it had begun with a long range research plan and a supporting ADP master plan, the Institute would have been in a much better position to assess its overall needs and avoid these problems. The Institute Director agreed and stated his desire to develop a better plan in the future.

#### CONTROLS OVER ADP MAINTENANCE CONTRACTS

Because of poor planning and management control of its ADP maintenance contracts, the Institute has paid for maintenance on systems that have not been in use for some time.

The Institute has contracts with two vendors for periodic maintenance and repair of the computer equipment in the central facility and the laboratories. We found that the Institute had no system for verifying that preventive maintenance was actually performed. Although a log book of contractor field service reports existed for recording when maintenance was performed on each computer system, we found that eight reports were missing for periods when preventive maintenance should have been performed from October 1981 through February 1982. For three of these periods, we found field service reports for repairs but could not verify that preventive maintenance had also been performed.

We also found that the Institute was paying for maintenance on two PDP 11/34A computer systems that have not been used for the last 6 to 12 months, and a PDP 11/10 system that has been used only occasionally during the last 2 years and not at all during the 2 months of our field work. The monthly maintenance charge for these three systems totals \$13,080 annually. It may be more cost effective to convert some of the computer systems from monthly maintenance service to a per-call maintenance service, wherein repair costs would be paid as incurred. The equipment could be returned to monthly maintenance coverage at no added cost if the equipment begins to receive more frequent use.

These problems are partly due to the organizational confusion surrounding the management of the maintenance contracts. Funding and technical management of all service and support contracts fall



under the Logistics Department. Management of the equipment itself falls under the Computer Sciences Department. This arrangement has created uncertainty about who determines which systems to include under the contracts, and who plans the scope and extent of that coverage. Also, the staff expressed confusion about who is expected to document and verify that work contracted for was actually performed. The Institute's management needs to clearly delineate staff responsibilities to ensure that contractor performance is monitored and verified and that contract scope and coverage are adequately planned.

#### ACCESS TO COMPUTER FACILITIES

The Institute's controls and procedures for preventing unauthorized use of its ADP facilities are generally adequate. Even though one of the procedures is not always followed, we found no evidence of use by unauthorized people. However, had there been unauthorized use of ADP resources by an authorized user, we would not have been able to detect it.

The Institute uses a card entry system to limit access to its buildings. Each employee is issued a magnetically encoded card which allows entry and exit through the main lobby. Visitors must check in with the lobby receptionist, sign in and out on a visitor log, and be escorted by an Institute employee. No one outside the facility can use terminals and telephone lines to access any of the computers because none of the computers has this capability installed.

The Institute's procedures also require department chairmen to authorize, in writing, access to the computers by each staff member who needs it. The Computer Sciences Department then provides each authorized user with an identification code which must be used to log onto the computer systems. At the outset of each fiscal year, department chairmen must recertify all authorized users to the Computer Sciences Department.

Although these controls appear adequate to prevent unauthorized use, we found that 15 of the 86 currently authorized users were not recertified this fiscal year. When we brought this to the attention of Institute officials, we were told that each of the 15 has now been confirmed as an authorized user and a recertification notice has been sent to the Computer Sciences Department.

#### INVENTORY RECORDS

We found that the inventory records maintained by the Institute do not accurately account for its assets. While procedures have been established and an automated system created to account for Institute equipment, a shortage in staffing to implement the system has resulted in incomplete and inaccurate inventory records.

In October 1981, the DNA Inspector General found many discrepancies between DNA's and the Institute's capital equipment inventory records and recommended steps to correct them. Since that time, a property officer has been formally appointed and the capital equipment inventory has been updated.

We performed three tests of the Institute's equipment inventory records involving 159 items, or about 2-1/2 percent of the inventory, and found that problems remain.

--Five of 23 items we selected from the 1981 procurement files were not included on the inventory records; the total value of these items was \$17,300. All five items are at the Institute, but they had not been assigned inventory identification numbers.

--Two of 25 items we identified in laboratories were not included on the inventory records; all had been assigned identification numbers.

--Nineteen of 111 items we identified in hallways and storage areas were not included on the inventory records. For several items in this category, we were told that the items, not currently in use, are being stored temporarily in their present locations. In most cases officials were able to identify a potential future use for the items, but admitted that three of them had gone unused for about 18 months.

The primary factor affecting the accuracy of the inventory records is the shortage of assigned staff. One individual screens purchase requests, inspects and controls the distribution of all items received, and maintains and updates the Institute's property inventory records. Further, since at least 1976, the Material Support Division has not had the necessary staff to conduct a physical inventory of the Institute's assets, even though regulations require this annually. Instead, the individual departments have periodically verified and updated their own equipment inventories. The Institute Director stated that additional staff for this division has been requested but has not yet been provided by DNA.

#### ADMINISTRATION OF TIME AND ATTENDANCE

Our review of the Institute's time and attendance procedures and practices revealed several minor discrepancies. For instance, the regulations could be interpreted as allowing timekeepers, in addition to supervisors, to certify time and attendance records. We also noted the absence of written procedures for receipt and distribution of records. We discussed these with Institute officials, who promised to take corrective action.

At your request, we also reviewed the time and attendance records of a civilian employee at the Institute who was alleged

to be teaching at a public college during working hours but not charging annual leave. Our investigation revealed that he attempted to put in a full 8 hours each day by working a split shift, but he frequently failed to do so.

We were told the employee was given oral authorization to work, and had in fact worked, an 8-hour split shift so that he could teach during the day. We reviewed his time and attendance records from March 1980 to February 1982, however, and found that his scheduled tour of duty was a straight 8-hour shift from 7:30 a.m. to 4:00 p.m. We also found that until January 1982 his supervisor had signed only one of his biweekly timecards during this period. His supervisor began signing his timecard at about the time we initiated our review.

To validate that the employee was working a split shift, we analyzed the records generated by the Institute's security system. This system controls employee and visitor access and records the date and time an individual enters and leaves the facility. We analyzed these records for the period September 28, 1981, through January 29, 1982; earlier records were routinely destroyed but the Director of the Institute ordered that they be retained when he first heard about the allegation some time in early October 1981. Our analysis showed that on 34 split shift days, the employee worked at least 1 hour less than required on 13, or 38 percent, of the days. The analysis also showed the employee tended to be excessively tardy even on continuous shift days.

We discussed these findings with the Director of the Institute. He later told us the employee is no longer authorized to work a split shift and must take annual leave or leave without pay to teach his classes for the rest of this semester. In the future he will be allowed to teach only in the evenings. Additional details on this matter are contained in a fact sheet which was provided earlier to members of your staff.

#### DEFENSE AUDIT SERVICE 1980 RECOMMENDATIONS

In 1980 the Defense Audit Service issued a report criticizing the Institute for conducting an extensive amount of research that was unrelated to its stated mission. To correct this problem the report made eight specific recommendations to the Director, Defense Nuclear Agency.

Actions have been completed on six of the eight recommendations. These actions include (1) clarifying the Institute's mission, (2) establishing an advisory committee to determine and assess research requirements of the military services, (3) establishing a DNA position to coordinate the Institute's research program with other Department of Defense components, (4) appointing a scientific advisor to provide the Institute with better internal technical direction, (5) revising the Institute's publication policy, and (6) extending the tour of duty of the Institute

## APPENDIX II

## APPENDIX II

Director from 3 to 4 years, In addition, the Institute has now developed a 5-year plan which outlines the Institute's research program for fiscal 1983 through 1987.

Action is still pending on the recommendation to establish peer review of the Institute's research program. The Directors of both DNA and the Institute recognize the importance of establishing such a review mechanism to ensure the relevancy and technological appropriateness of the Institute's research program. The responsibility for developing peer review has been assigned to the newly appointed scientific advisor. The Director of the Institute intends to have the peer review process in place by late 1982.

No action has been taken on the recommendation to identify the Institute's funding requirements as a separate line item in DNA's formal budget submission. DNA officials do not see a need for separate line item presentation because DNA's budget submissions include supporting documents which clearly disclose the total funding requested for the Institute.

(913685)